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ABSTRACT

Data were collected to develop special norms for the Vineland Adaptive Behavior Scales (VABSs) for educable mentally retarded (EMR) and trainable mentally retarded (TMR) children. These scales currently report special norms for retarded adults. The study also sought to determine if the low to moderate relationship typically found between intelligence and adaptive behavior scores of normal children is supported for samples of EMR and TMR children using the VABSs. Practitioners of the VABSs were contacted and asked to record demographic information; placement category; Vineland Survey Form (VSF), Vineland Expanded Form (VEF), and Vineland Classroom Edition (VCE) scores; intelligence test scores; and other test data concerning their clients. Data forms were studied for 204 EMR children and 113 TMR children ranging in age from 3 through 18 years at the time of VSF or VEF administration, and from 3 to 12 years at the time of VCE administration. Three tables of supplementary norm group percentile ranks were prepared. As expected, the mean Vineland scores for TMR children were lower than were those for EMR children. The means of VSF and VEF scores for EMR children indicate that the sample typically scored in the low range. However, means for the VCE daily living skills and socialization domains were in the moderately low range for EMR children. Most correlations with measures of intelligence indicated that the low to moderate relationship between intelligence and adaptive behavior was supported for EMR children. Seven tables present study data. (SLD)

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Vineland Adaptive Behavior Scales Performance of EMR and TMR Children[a]

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The Vineland Adaptive Behavior Scales (Harrison, 1985; Sparrow, Balla, & Cicchetti, 1984a, 1984b) are frequently used in the assessment of mental retardation, and the Vineland is recognized as one of the few adaptive behavior scales with adequate psychometric properties (Kamphaus, 1987). Yet, little research has been conducted that investigated the use of the Vineland with mentally retarded children. The Vineland Survey and Expanded Form manuals report special norms for mentally retarded adults, but offer no similar information for mentally retarded children. The present study had two purposes: (1) to collect data for developing special norms on the Vineland for educable mentally retarded (EMR), or mildly retarded, children and trainable mentally retarded (TMR), or moderately retarded, children, and (2) to determine if the low to moderate relationship typically found between intelligence and adaptive behavior scores of normal children (Harrison, 1987) is also supported for samples of EMR and TMR children using the Vineland.

Method

Practitioners who use the Vineland were recruited from across the United States through newsletters, telephone calls, and colleague referral. Each practitioner who responded was asked to complete data forms for clients for whom the Vineland had been administered, and to send the completed forms to the investigators. Although clients' names were not recorded on data forms, practitioners recorded demographic information; placement category; Vineland Survey Form, Expanded Form, and Classroom Edition scores; intelligence test scores; and other test information.

Data forms were received for a total of 204 EMR children and 113 TMR children. Table 1 presents the numbers and percentages of EMR and TMR children who came from each geographic region of the country and who fell in each sex or race/ethnic group category. Table 1 also reports the number of EMR and TMR children for whom scores on each Vineland form (Survey Form, Expanded Form, and Classroom Edition) were available. The ages of the EMR

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and TMR children ranged from 3 through 18 years at the time of Survey or Expanded Form administration. The ages of the EMR and TMR children ranged from 5 through 12 years at the time of Classroom Edition administration.

Results and Discussion

Supplementary Norm Group Percentile Ranks

Supplementary norm group percentile ranks for EMR and TMR children were developed in the same way as described in the Vineland Survey Form and Expanded Form manuals; these manuals describe the development of supplementary norm group percentile ranks for mentally retarded adults and emotionally disturbed, visually handicapped, and hearing impaired children. To develop the percentile ranks, cumulative percentages for domain and Adaptive Behavior Composite standard scores were determined. (Standard scores with a mean of 100 and standard deviation of 15 were obtained using the norms tables in the Vineland manuals.) The cumulative percentages were then plotted on arithmetic probability paper. A smooth curve was drawn through the plotted points, and percentile ranks corresponding to standard scores were read from the curve and tabled. Percentile ranks were rounded to increments of five, except at the extremes, by assigning percentiles within 2.5 points to the nearest fifth percentile rank. Three tables of supplementary norm group percentile ranks were prepared; tables were prepared only if the sample size used to develop the percentile ranks was larger than 50. Tables 2, 3, and 4 report percentile ranks for EMR children on the Vineland Survey form, for TMR children on the Vineland Survey Form, and for EMR children on the Vineland Classroom Edition.

To determine supplementary norm group percentile ranks for EMR and TMR children, users should first obtain standard scores for the domains and Adaptive Behavior Composite using the norms tables in the Vineland manuals. Then, users may enter Tables 2, 3, and 4, with the standard scores to determine the corresponding percentile ranks. When these percentile ranks are recorded, users should write "SP" before the percentile rank to indicate these are supplementary norm group, rather than national, percentile ranks, and should also identify the type of norm group.

These supplementary norm group percentile ranks are interpreted in the same way as described for the supplementary norms available in the Vineland Survey Form and Expanded Form manuals. Supplementary norms should only be used as supplement as to national norms when interpreting performance on the Vineland. The user of these norms are also cautioned to note that the norms are based on small samples.

Other Analyses

Means and standard deviations of Vineland scores for EMR and TMR children are reported in Table 5. The means of Survey Form and Expanded Form scores for EMR children indicate that the sample typically scored in the low range. However, means for Classroom Edition Daily Living Skills and Socialization domains fell in the moderately low range for EMR children. As expected the mean Vineland scores for TMR children were lower than the mean scores for EMR Children.

WISC-R and K-ABC scores were available for some children in the sample, and mean scores for these tests are reported in Table 6. Correlations between Vineland scores and WISC-R and K-ABC scores are presented in Table 7 (Correlations are reported only if the sample size was greater than 15; thus, correlations are only reported for EMR children on the Vineland Survey Form and Classroom Edition.) Although several correlations reached significance, most correlations indicate that the low to moderate relationship between intelligence and adaptive behavior typically found for normal children is also supported for EMR children

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Table 1
Summary of Demographic Characteristics of the Educable Mentally Retarded (Mildly Retarded) and Trainable Mentally Retarded (Moderately Retarded) Children in the Sample

	Educable Mentally Retarded		Trainable Mentally Retarded	
	N	%	N	%
Region of the Country				
Northeast	38	18.6	17	15.0
South	85	41.7	50	44.2
North Central	69	33.8	36	31.9
West	12	5.9	10	8.8
Total	204	100	113	100
Sex				
Male	120	59.4	69	61.6
Female	82	40.6	43	38.4
Total	202	100	112	100
Race/Ethnic Group				
Black	48	24.1	22	19.8
White	141	70.9	83	74.8
Hispanic	8	4.0	6	5.4
Other	2	1.0	---	--
Total	199	100	111	100
Vineland Form				
Survey Form	122		79	
Expanded Form	27		16	
Classroom Edition	52		19	

Note: Total Ns for each demographic category may vary due to missing data for some children

Table 2
Vineland Survey Form
Supplementary Norm Group Percentile Ranks Corresponding to Standard Scores
Age 3 years, 0 months through 18 years, 11 months
Educable Mentally Retarded (Mildly Retarded) Children

Supplementary Norm Group Percentile Rank	Communication	Daily Living Skills	Socialization	Adaptive Behavior Composite
	Standard Scores			
SP99	101-above 160	105-above 160	101-above 160	93-above 160
SP98	87-100	101-104	98-100	88-92
SP95	83-86	93-100	92-97	78-87
SP90	77-82	88-92	87-91	74-77
SP85	73-76	81-87	84-86	72-73
SP80	71-72	76-80	80-83	70-71
SP75	69-70	73-75	78-79	67-69
SP70	67-68	71-72	75-77	65-66
SP65	66	68-70	73-74	63-64
SP60	64-65	66-67	71-72	61-62
SP55	62-63	65	70	60
SP50	60-61	63-64	68-69	58-59
SP45	58-59	62	67	56-57
SP40	56-57	59-61	65-66	54-55
SP35	54-55	56-58	64	52-53
SP30	51-53	51-55	61-63	50-51
SP25	50	47-50	58-60	48-49
SP20	47-49	42-46	55-57	45-47
SP15	44-46	37-41	53-54	42-44
SP10	41-43	31-36	47-52	38-41
SP5	31-40	22-30	29-46	32-37
SP2	26-30	20-21	23-28	31
SP1	below 20-25	below 20	below 20-22	below 20-30

Table 3
Vineland Survey Form
Supplementary Norm Group Percentile Ranks Corresponding to Standard Scores
Age 3 years, 0 months through 18 years, 11 months
Trainable Mentally Retarded (Moderately Retarded) Children

Supplementary Norm Group Percentile Rank	Communication	Daily Living Skills	Socialization	Adaptive Behavior Composite
	Standard Scores			
SP99	68-above 160	75-above 160	77-above 160	67-above 160
SP98	65-67	72-74	76	65-66
SP95	59-64	67-71	70-75	60-64
SP90	56-58	65-66	67-69	57-59
SP85	55	61-64	65-66	54-56
SP80	53-54	59-60	62-64	52-53
SP75	51-52	57-58	60-61	51
SP70	49-50	55-56	58-59	49-50
SP65	46-48	53-54	57	47-48
SP60	44-45	49-52	55-56	45-46
SP55	42-43	45-48	54	43-44
SP50	41	42-44	52-53	41-42
SP45	37-40	38-41	50-51	39-40
SP40	35-36	35-37	49	37-38
SP35	33-34	31-34	47-48	35-36
SP30	30-32	28-30	45-46	33-34
SP25	28-29	25-27	42-44	31-32
SP20	26-27	22-24	40-41	29-30
SP15	23-25	Below 20-21	36-39	26-28
SP10	Below 20-22	-----	31-35	23-25
SP5	-----	-----	22-30	Below 20-22
SP2	-----	-----	Below 20-21	-----
SP1	-----	-----	------	-----

Table 4
Vineland Classroom Edition
Supplementary Norm Group Percentile Ranks Corresponding to Standard Scores
Age 5 years, 0 months through 12 years, 11 months
Educable Mentally Retarded (Mildly Retarded) Children

Supplementary Norm Group Percentile Rank	Communication	Daily Living Skills	Socialization	Adaptive Behavior Composite
	Standard Scores			
SP99	89-above 160	101-above 160	113-above 160	96-above 160
SP98	85-88	96-100	106-112	93-95
SP95	80-84	89-95	100-105	87-92
SP90	77-79	85-88	92-99	81-86
SP85	75-76	79-84	87-91	77-80
SP80	74	76-78	85-86	74-76
SP75	73	74-75	82-84	71-73
SP70	71-72	73	80-81	70
SP65	69-70	71-72	78-79	69
SP60	68	70	77	68
SP55	67	68-69	76	67
SP50	66	-----	74-75	66
SP45	65	67	73	-----
SP40	-----	66	71-72	65
SP35	64	65	70	-----
SP30	-----	64	69	64
SP25	63	63	68	-----
SP20	62	62	67	63
SP15	61	61	65-66	62
SP10	57-60	57-60	63-64	59-61
SP5	53-56	55-56	60-62	57-58
SP2	51-52	53-54	59	55-56
SP1	below 20-50	below 20-52	below 20-58	below 20-54

Table 5
Means and Standard Deviations of Vineland Scores for the Educable Mentally Retarded (Mildly Retarded) and Trainable Mentally Retarded (Moderately Retarded) Children in the Sample

	Educable Mentally Retarded			Trainable Mentally Retarded		
	N	Mean	SD	N	Mean	SD
Vineland Survey Form						
Communication	122	60.6	15.5	79	40.7	13.5
Daily Living Skills	121	62.4	20.6	79	43.0	18.0
Socialization	120	68.5	15.3	79	52.1	13.2
Adaptive Behavior Composite	97	58.9	14.0	73	42.0	12.5
Vineland Expanded Form						
Communication	27	57.8	10.3	17	37.8	14.3
Daily Living Skills	27	59.7	15.0	17	37.0	19.2
Socialization	27	60.5	10.7	16	44.9	16.1
Adaptive Behavior Composite	27	52.7	9.5	16	36.6	15.0
Vineland Classroom Edition						
Communication	52	67.5	7.9	18	51.8	13.3
Daily Living Skills	52	70.4	10.6	18	57.5	14.6
Socialization	52	77.2	12.2	18	69.4	11.5
Adaptive Behavior Composite	52	69.2	9.4	19	57.7	12.4

Table 6
Means and Standard Deviations of WISC-R and K-ABC Scores for the Educable Mentally Retarded (Mildly Retarded) and Trainable Mentally Retarded (Moderately Retarded) Children in the Sample

	Educable Mentally Retarded			Trainable Mentally Retarded		
	N	Mean	SD	N	Mean	SD
WISC-R						
Full Scale	98	64.1	8.8	19	52.9	12.3
Verbal Scale	98	65.4	7.8	19	54.1	9.6
Performance Scale	97	67.6	10.6	19	60.0	13.6
K-ABC						
Sequential Processing	51	67.4	13.5	18	54.0	10.8
Simultaneous Processing	41	68.0	9.1	13	58.5	11.4
Mental Processing Composite	48	64.2	9.5	14	54.6	10.5
Achievement	44	63.1	13.3	13	51.5	13.4
Nonverbal	26	64.4	8.2	9	57.6	9.3

Table 7
Correlations Between Vineland and WISC-R and K-ABC Scores for Educable Mentally Retarded (Mildly Retarded) Children in the Sample

	WISC-R						K-ABC									
							Mental Processing									
	Full Scale		Verbal Scale		Performance Scale		Sequential		Simultaneous		Composite		Achievement		Nonverbal	
	N	r	N	r	N	r	N	r	N	r	N	r	N	r	N	r
Vineland Survey Form																
Communication	53	.38*	53	.42*	52	.18	31	.05	24	.42*	30	.40*	26	.60*	20	.35
Daily Living Skills	53	.10	53	.16	52	.02	31	.11	24	.61*	30	.54*	26	.51*	20	.38
Socialization	52	.17	52	.25	51	-.01	31	.12	24	.28	30	.31	26	.58*	20	.23
Adaptive Behavior Composite	38	.18	39	.41*	38	-.09	28	-.01	21	.30	27	.32	24	.52*	17	.13
Vineland Classroom Edition																
Communication	32	.45*	33	.31	32	.52*										
Daily Living Skills	32	.45*	33	.38*	32	.45*										
Socialization	32	.17	33	.15	32	.17										
Adaptive Behavior Composite	31	.42*	32	.28	31	.49*										

*$p \leq .05$

Note. Correlations are not reported when $N \leq 15$.